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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,572	01/12/2004	Mun-Pyo Hong	8071-121T (OPP031985US)	8242
7590 11/30/2006			EXAMINER	
F. Chau & Associates, LLC 130 Woodbury Road Woodbury, NY 11797			FENTY, JESSE A	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/754,572

Applicant(s)

HONG ET AL.

Examiner

Jesse A. Fenty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10, 14, 15, 45-51 and 54-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45-50 is/are allowed.
- 6) ☒ Claim(s) 10, 14, 15, 51, 54, 56, 58 is/are rejected.
- 7) ☐ Claim(s) 55 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/06/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claims 55 and 57 are objected to because of the following informalities: Claims 55 and 57 lack proper antecedent basis because claims 10 and 51 list the materials for the second conductive material in the alternative. Since the prior art cited below discloses one of the exemplary materials, not Al Si, as the material for the second conductive layer, the claim language of claims 55 and 57 is inappropriate unless Al Si is specifically claimed in either claim 10 or 55, and 51 or 57. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10, 15, 51, 56 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Franklin et al. (U.S. Patent No. 6,034,725).

In re claim 10, Franklin (e.g., Fig. 3) discloses a contact structure of a wire, comprising:

a wire (8) of conductive material on a substrate, wherein the wire is made of a conductive material including aluminum-based material;

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an inter-layer reaction layer (10) formed on the wire and including at least silicon,  
and

a conductive layer (12) directly connected to the wire via the inter-layer reaction  
layer.

In re claim 15, Franklin discloses the device of claim 10, further comprising an  
insulating layer (9) having a contact hole exposing the inter-layer reaction layer between  
the wire and the conductive layer.

In re claim 56, Franklin discloses the device of claim 10, wherein the inter-layer  
reaction layer is formed only on a portion of the wire exposed through a contact hole.

In re claim 58, Franklin discloses the device of claim 51, wherein the second  
conductive layer is formed only on a portion of the first wire exposed through a contact  
hole.

(e) the invention was described in (1) an application for patent, published under section 122(b), by  
another filed in the United States before the invention by the applicant for patent or (2) a patent  
granted on an application for patent by another filed in the United States before the invention by the  
applicant for patent, except that an international application filed under the treaty defined in section  
351(a) shall have the effects for purposes of this subsection of an application filed in the United States  
only if the international application designated the United States and was published under Article 21(2)  
of such treaty in the English language.

Claims 10, 51 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated  
by Zhang et al. (U.S. Patent No. 6,288,388 B1).

In re claim 10, Zhang (e.g., Fig. 1) discloses a contact structure of a wire,  
comprising:

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a wire (104) of conductive material on a substrate, wherein the wire is made of a conductive material including aluminum-based material;

an inter-layer reaction layer (106) formed on the wire and including at least silicon, and

a conductive layer (105) directly connected to the wire via the inter-layer reaction layer.

In re claim 54, Zhang discloses the device of claim 5, wherein the first conductive layer is formed of a transparent conductive material.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as applied to claim 10 above, and further in view of Possin et al. (U.S. Patent No. 5,777,355).

In re claim 14, Zhang discloses the device of claim 10, wherein the conductive layer is indium tin oxide, but does not expressly disclose the conductive layer being indium zinc oxide. Possin discloses an alternative conductive layer to indium tin oxide as being indium zinc oxide (Possin; column . It would have been obvious for one skilled

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in the art at the time of the invention to use indium zinc oxide as disclosed by Possin for the device of Zhang for the purpose, for example, of using a recognized equivalent indium zinc oxide for the base material indium tin oxide.

### ***Response to Arguments***

Applicant's arguments with respect to claims 10, 14, 15, 45-51 and 54-58 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

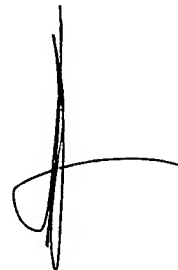
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on M-F 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF

A handwritten signature in black ink, appearing to be 'K Parker', written over a horizontal line.

**KENNETH PARKER**  
**SUPERVISORY PATENT EXAMINER**